

POISONOUS SNAKES of EUROPE, AFRICA and NEAR EAST

INFORMATION BULLETIN NO. 4

Arctic, Desert, Tropic Information Center

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Alabama

SOME FACTS ABOUT POISONOUS SNAKES

Almost everyone is afraid of snakes. Even the harmless kinds are regarded with loathing and often with terror. Fear of snakes is caused partly by our unfamiliarity with them but mostly as the result of nonsensical fiction and misinformation.

While no one expects you to love snakes there is no need to fear them once you know something about their habits, their characteristics, the actual incidence of snakebite and mortality figures, precautions against snakebite, and emergency treatment of snakebite.

Actually the chances of being bitten by a poisonous snake are very small. In the first place harmless snakes greatly outnumber the venomous kinds on a world-wide basis both in number of species and individuals. In the United States only 10% of the species of snakes pose a danger to human life. In other areas of the world this figure may be higher, e.g., Australia with 70% of the species being poisonous; in the second place, few snakes will bite unless provoked to do so. Most snakes are as interested in avoiding you as you are in avoiding them. With proper clothing the hazard is even further reduced.

Even if bitten the mortality from snakebite is relatively low. In the U. S. the mortality rate of those bitten by poisonous snakes is about 2%. During the period of 1950-1954 the death rate in the U. S. was only about 0.015 per 100,000 of the population per year—certainly a far smaller mortality figure than that caused by lightning, insect stings, or traffic accidents. A Naval review of 121 snake bite cases in Eastern North Carolina during the years of 1951-1959 revealed that some 75 persons were bitten by poisonous snakes yet only three of these cases proved fatal. In Australia where there are numerous kinds of poisonous snakes the annual mortality is 0.07 per 100,000 population. In the States, these figures are low because of the availability of antivenin, protective covering for the feet, and mechanized agriculture. In those countries where there are dense populations of ill-shod people engaged in manual farming practices, the mortality figures are considerably higher. Burma, for example, has a death rate of 15.4 per 100,000; India - 5.4 and Ceylon - 4.2. In India alone some 15,000 people are estimated to die annually from snakebite.

It should be noted that most of these fatalities occur in areas where people go around barefoot and get bitten on the feet or ankles. For a person wearing shoes and trousers the danger of being bitten by a poisonous snake is small compared to the hazards of malaria, cholera, dysentery or other diseases. Mosquitoes are far more hazardous to man than snakes.

You can dismiss as exaggerations most of the popular literature you have read and the stories you have heard about snakes. Don't believe all the hair-raising tales about the number, size, ferocity, and striking distance of the local snakes

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in the area where you are based. Because all snakes must feed on other animals, each snake must have a fairly large hunting ground in order to find enough food. This alone limits the number of snakes. As far as the size of snakes is concerned, usually only a large specimen over two feet long presents a potential danger to a grown man, and these large extremely dangerous snakes are not common. The bite of smaller snakes is not likely to be fatal. The longest venomous snake is the king cobra sometimes exceeding 18 feet. The bulkiest are several African vipers and the eastern diamondback rattlesnake.

The striking distance of snakes has often been exaggerated. Few snakes are able to strike at more than a third to half their body length. Generally you must be at least within a long step of a large snake before he can bite you; a normally alert person will be able to see the snake before he gets within striking range. Most bites occur when a snake is stepped on by accident.

Although the king cobra of southeast Asia, the bushmaster and the tropical rattlesnake of South America have been reported to attack man on occasion, most snakes will do their best to get out of your way, although they may do so slowly.

Certain superstitions regarding the inability of snakes to cross horsehair rope or to bite under water are completely inaccurate and should be discounted. No man need fear snakes who knows the essential facts about them. You can minimize the chances of being bitten by a snake by keeping your eyes open, by learning how to identify the dangerous snakes in your own local area, by following the simple precautions for avoiding snakes, and by knowing what to do in the very rare event you are bitten.

Kind and Characteristics of Dangerous Snakes

In nearly all cases snakes dangerous to man fall into two categories—those with fixed anterior fangs (the proteroglyphs) and those with folded anterior fangs (solenoglyphs). These are further divided into two families having the following names and continental distributions:

Proteroglyphs:

Elapidae (elapids). Asia, Africa, Australia, North and South America (e.g., king cobra, coral snake, mamba, krait, taipan, death adder, tiger snake, and Australian black and brown snakes).

Hydrophiidae (hydrophids or Sea Snakes), Tropical seas (except the Atlantic).

Solenoglyphs:

Viperidae (viperids or True Vipers). Asia, Africa, and Europe. (e.g., Russell's viper, saw scaled viper, European viper or adder, and African viper).

Crotalidae (crotalids or Pit Vipers). Europe (extreme SE.), Asia, and North and South America. (e.g., rattlesnakes, moccasins, fer-de-lance, and bushmasters).

In addition to arrangement of fangs the above four families differ in their toxic effects. Fixed-fanged snakes are usually equipped with neurotoxic venoms (which affect the nervous system) while folded-fanged snakes usually have hemotoxic venoms (affecting the circulatory system).

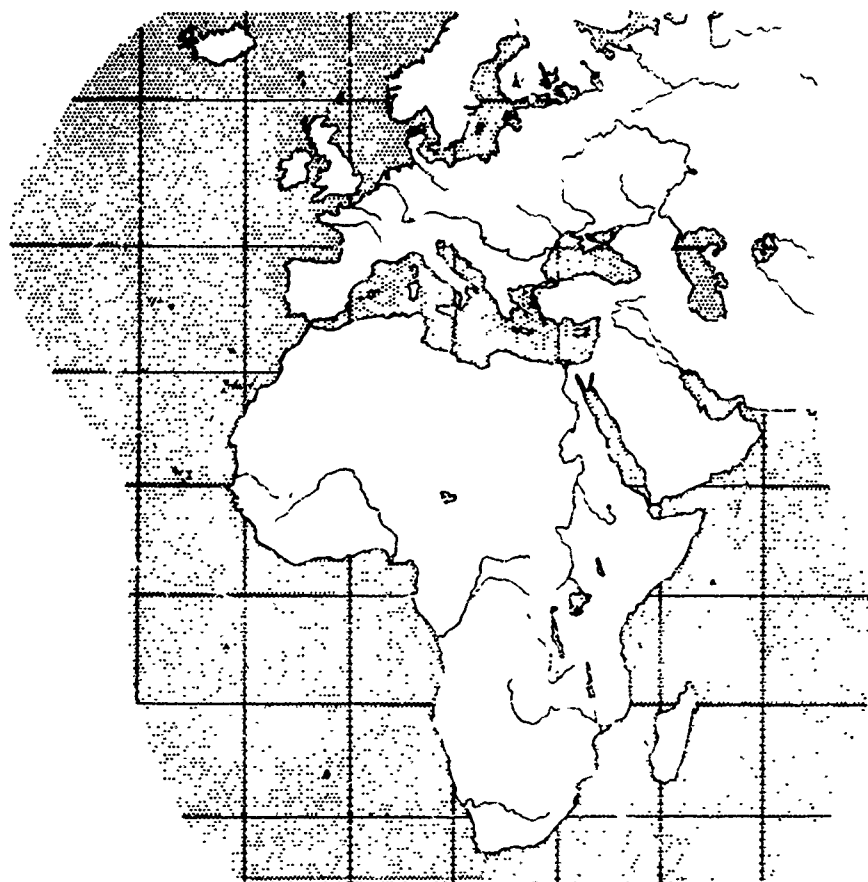
It is not easy to identify a poisonous snake. There is no single characteristic which distinguishes a poisonous snake from a harmless one except the presence of poison fangs and glands. You can determine the presence of these parts without danger only in dead specimens and even then the fangs may be hard to find.

The notion that all poisonous snakes have lance-shaped or triangular heads or some other warning feature is wrong and dangerous. While it is true that many dangerous snakes do have lance-shaped heads, many do not.

Although they are not poisonous it is worth knowing some facts about pythons, boas and other large constrictors. Though some of these snakes may grow to 25 feet and all kill their prey by constriction, most are timid and rarely if ever attack man without provocation. Boas are found in the American tropics while pythons occur in the tropics of Africa and Asia. If caught or cornered, these snakes may fight back by biting and wrapping their coils around the attacker. Though not venomous, the bite of a large constrictor may cause a nasty, infectious wound.

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DISTRIBUTION OF POISONOUS SNAKES OF EUROPE, AFRICA AND THE NEAR EAST



EUROPE, WEST OF THE VOLGA: Vipers are the only poisonous snakes found. There are no snakes in Ireland.

NEAR EAST AND AFRICA (North of 20° North): Cobras and vipers are found in this area.

AFRICA (South of 20° North): Cobras, vipers, mambas and coral snakes are found in this area. There are sea snakes on the east coast of Africa and in the Persian Gulf. There are no poisonous snakes on Madagascar.

The only certain way to identify dangerous snakes is to learn to know and recognize the poisonous kinds on sight in the particular area in which you happen to be based. This bulletin illustrates and describes the important kinds found in your area.

Precautions Against Snakebite

Always wear high boots in areas where snakes are common. Learn to recognize snake den areas such as holes in the ground, crevices in rocks, caves or under rocks, old boards, logs, and piles of debris, and avoid stepping in these places. Watch where you put your hands when climbing over rocky places or over stone walls. Gloves should be worn when clearing ground or brush. Above all keep your eyes open. Snakes are often well camouflaged and may be touched or stepped on accidentally.

Never handle a live snake or play with one unless you are absolutely certain it is harmless. It takes an expert to handle a dangerous snake. You flirt with death when you pick up an unknown snake.

First-Aid Measures for Snakebite

The first problem in treating snakebite is to determine whether the bite has been caused by a poisonous snake. The only reliable way to tell is to identify the snake, although the wound and the developing aftereffects may provide some clues as well. A good indication of the bite of a poisonous snake is the intense pain, local swelling or other alarming symptoms which result almost immediately. Coral snakes, cobras, mambas and kraits often hang on and chew when they bite leaving usually more than one puncture mark. Vipers stab with their fangs leaving nearly always two small puncture marks half an inch or more apart, although there may be only one puncture mark if the snake strikes a glancing blow or lacks one fang.

If bitten by a harmless snake treat with iodine as an ordinary wound. If the bite is identified as that of a poisonous snake and you can get to a medical officer in a few minutes apply a tourniquet (constricting band) and let the medical officer administer first aid. Otherwise proceed with additional first-aid measures yourself.

Since most of the venom is rapidly moved through the body within the first thirty minutes after being bitten it is essential that the following first-aid measures be taken immediately, especially in remote areas where medical treatment is not available.

1. Definitely determine that the snake is poisonous. With poisonous types, a burning pain, often excruciating, occurs at the site of the injury in three to five minutes. (This does not necessarily occur with neurotoxic venom such as coral and cobra). Within minutes a distinct swelling usually develops, increases, and advances up the limb. The skin of the bitten area becomes dark and purplish. With neurotoxic venoms, symptoms usually involve a tingling sensation in the extremities, a gradual loss of muscular coordination, and an increasing difficulty of speech. If symptoms do not occur, or are mild during the first three to five minutes following the bite, complete immobilization and sterilization of the bite area may be the only treatment required.

2. Lie down and remain quiet. Body activity should be kept to a minimum: avoid food or alcohol. Apply a tourniquet continuously to the limb two or three inches above the bite. Do not tighten the tourniquet so that it cuts off arterial circulation. Some bleeding from the bite may occur.

3. Sterilization. Wipe the skin around the bite free of dripped venom. Sterilize the skin with an antiseptic such as tincture of iodine or soap and water.

4. Apply suction immediately and continue for at least 30 minutes. The best method is by using the mouth with a chewing and sucking motion. A thin piece of rubber latex, or plastic stretched over the bite can be used to protect the mouth. Snake venom, if swallowed, will cause no harm. There is danger only if there are cuts or open sores in the mouth and throat.

5. Do not cut the skin unless professional medical aid is immediately available.

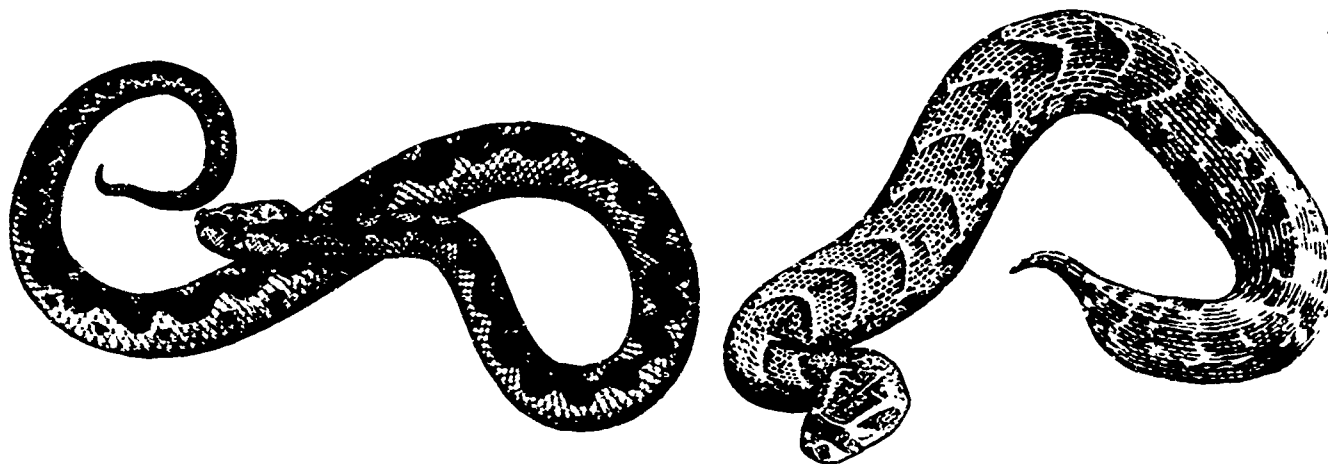
6. Attempt to keep the injured area cool. Immerse the area in cold water, if possible. This is primarily to reduce pain and increase patient comfort.

7. Reassurance. The victim should be reassured that the incidence of death from snakebite is low and that his chances of recovery are excellent. Fear can be fatal even if the bite is from a harmless species.

8. Supportive Measures. Supportive measures such as transfusions, shock preventatives, antibiotics, and tetanus boosters are important measures and often used by medical personnel. The most widely used supportive measure, however, especially in severe cases is that of administering a polyvalent antivenin prepared from the serum of immunized horses. If serum is available it should be used according to directions.

THE POISONOUS SNAKES OF EUROPE

IDENTIFICATION AND

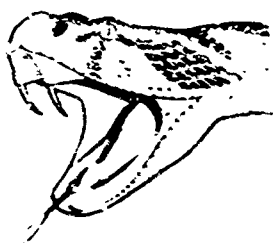


EUROPEAN VIPERS

Description: These snakes are true vipers (Viperidae) having a short thick body and a wide head which is much broader than the neck. Usually there is a zig-zag stripe down the back. Colors may be gray, olive-brown, reddish or yellowish. The European viper averages from 2 to 3 feet in length. There are 8 species on the European continent; these snakes sometimes are known also as adders or asps.

Habits: These vipers generally are found in the wilder areas, particularly in rocky places, such as in the Pyrenees, the Apennines and in the Balkan mountains, where they may be found up to 7,000 feet. They occur as far north as 6° in Scandinavia and across Siberia. Sunlit slopes, moors and heaths, grain fields and trash piles are favorite prowling places. Some of the European vipers are aggressive and savage causing occasional deaths.

POSITIVE IDENTIFICATION OF VIPERS



Pit vipers and true vipers have two long and distinctive fangs in the upper jaw; none of the other teeth are comparable in size. Fangs may be covered with a curtain of flesh or folded back in the mouth.



AFRICAN VIPERS

Description: The vipers of North Africa are true vipers similar to those of Europe, except for the puff adder (shown). This is a large brownish or sand-colored snake with striking markings, a heavy body and a very short tail. This snake grows to a length of 5 feet. Central Africa and South Africa have several additional kinds of vipers. Among the largest are the rhinoceros viper and the Gaboon viper. The rhinoceros vipers, found in West Africa, has horns on its nose, a very wide head and a thick body covered with colored marks down the back. It reaches a maximum length of 4 feet. The Gaboon viper has one horn on the nose, a wide head and thick body with oblong markings on the back, and triangular colored spots on the sides. It has been known to reach a length of 6 feet. There are a number of other African vipers, most of them small, with the exception of one kind, they have a wide head and thick body.

Habits: The puff adder prefers open forests or grasslands near streams. The rhinoceros viper is found in or near streams. The Gaboon viper lives in heavy forests. The bite of any of these snakes is extremely dangerous, but they are not aggressive and not inclined to bite. The smaller vipers, found in sandy country, open brush, grassland or light forest are likely to be aggressive and dangerous in spite of their small size. One of the smaller kinds buries itself in the sand and may strike at a passing man; its presence is disclosed by a characteristic coiling pattern in the sand.

CORAL SNAKES (ELAPIDS)

Description: These small snakes (average under 24 inches long) have brightly colored bands across the back which generally do not extend across the belly. Some of the smaller kinds have a reddish or bright orange stripe along the back.

Habits: Coral snakes are secretive and inoffensive; they seldom are seen. These snakes hardly can be regarded as dangerous; they bite only if stepped on or picked up.

FROM EUROPE, AFRICA AND NEAR EAST

IDENTIFICATION AND HABITS

COBRAS (ELAPIDS)

Description: There are several varieties of cobras in Africa and the Near East. The characteristic combat attitude is the simplest means of identification. In this posture, the front part of the body is raised vertically and the head tilted sharply forward. Usually the neck is flattened out to form a hood, however, some kinds do not have a hood and others do not spread the hood unless they are extremely angry. The cobras of this area may be black, brown, gray or yellowish, and with or without markings. Cobras often are 6 to 7 feet long; one kind—the water cobra—may attain 8 feet.

Habits: The cobras of Africa and the Near East can be found almost anywhere. One kind lives in or near water; another may climb trees. Some of the cobras in this area are reported to be aggressive and savage. The fairly common Egyptian cobra (shown) of North Africa and adjacent regions, is found often around rocky places and ruins. The distance the cobra can strike in a forward direction is equal to the distance the head is raised above the ground. However, some cobras can spit venom a distance of 10 to 12 feet; this venom is harmless unless it gets into a man's eyes, in which case it may cause blindness if not washed out immediately. It is particularly dangerous to poke around in holes and rock piles because of the likelihood of encountering a spitting cobra.

MAMBAS (ELAPIDS)

Description: These snakes are very slender and have small heads. They generally have a green or dark uniform color, without conspicuous spots or markings. The scales are smooth, symmetrical and large. Mambas attain lengths up to 12 feet. An 8-foot mamba is about half the thickness of an ordinary broomstick. It is difficult to identify mambas positively; the fangs in an 8-foot snake are only about 1/2-inch long, the thickness of a pin, and almost covered with flesh.

Habits: Mambas occur over all of Africa, except in the extreme northern portions. The South African mamba ranges from Tanganyika to West Africa south of the Congo and southward to Natal; it has two color phases—one black and one green. The green mamba (shown) is found in West Africa, from the Senegal to the Niger. Mambas live in trees or on the ground and have been known to enter houses in search of rats. They are very quick snakes. They may attack deliberately during their breeding season, but at other times they are timid and glide away. The bite of the mamba is very dangerous.

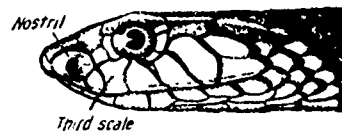
SEA SNAKES (HYDROPHIDS)

Description: These snakes are found only in salt water. They occur on the east coast of Africa and in the Persian Gulf. Sea snakes of this area have a brown to black back with a yellow belly. They can be distinguished from eels, by the fact that the snakes have scales and the eels do not. Sea snakes here are not more than 3 feet long.

Habits: These snakes are found in salt or brackish water on seacoasts. Their bites are dangerous but very rare. They have not been known to attack a man swimming.

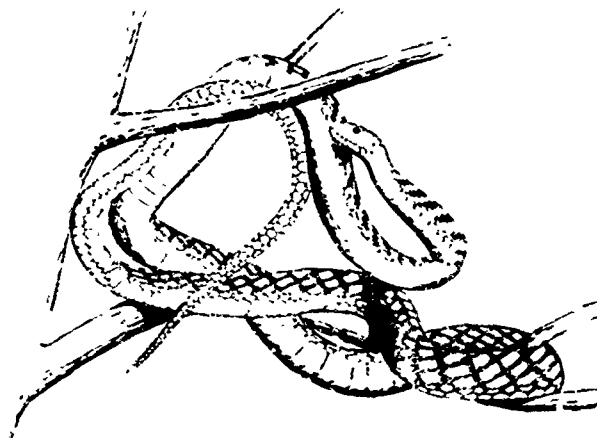
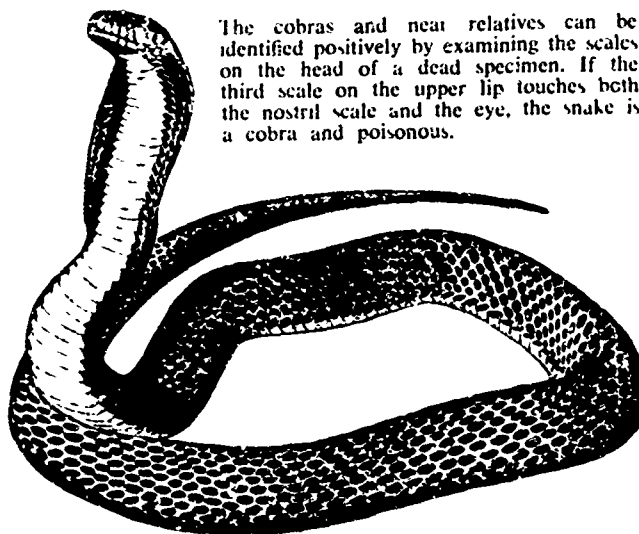
THE BOOMSLANG

This poisonous tree snake, which sometimes takes to the ground, is found in South Africa. The boomslang is slender; it may inflate the neck if disturbed, color is extremely variable, from black to green and speckled. Records of its bite are very rare; the snake is timid and not dangerous unless handled. (Not illustrated.)



POSITIVE IDENTIFICATION OF THE ELAPID FAMILY

The cobras and near relatives can be identified positively by examining the scales on the head of a dead specimen. If the third scale on the upper lip touches both the nostril scale and the eye, the snake is a cobra and poisonous.



SEA SNAKE

